



8 July, 2023

Performance Grading Index 2.0

Context: The Ministry of Education has unveiled the Performance Grading Index 2.0 report for States/Union Territories for the year 2021-22.

Features of the Report

- PGI 2.0 replaces the previous PGI structure due to out-dated and redundant indicators and a focus on governance processes rather than quality indicators.
- The revision of PGI aims to align with the National Education Policy (NEP) 2020 and monitor indicators related to Sustainable Development Goal (SDG) 4.
- The new PGI structure consists of 73 indicators, including qualitative assessment, digital initiatives, and teacher education.
- The data source for many indicators in PGI 2.0 is UDISE+ data, ensuring uniformity and comparability with PGI - District.
- PGI 2.0 comprises 1000 points across 73 indicators grouped into the categories of Outcomes and Governance Management, further divided into six domains.
- States/UTs are classified into ten grades, with the highest achievable grade being Daksh for scores above 940 and the lowest grade being Akanshi-3 for scores up to 460.

What is PGI?

Performance Grading Index (PGI) is a unique index that provides evidence-based comprehensive assessment of school education system in all states and union territories. It provides insights into the performance and achievements of school education system across India. Till date, the PGI report has been released for years 2017-18, 2018-19, 2019-20, and 2020-21. The recent report is for the year 2021-22.

The PGI 2.0 structure includes the following domains:

Categories	Domain	Indicators	Sub Indicators	Total Weight
1. Outcomes	Learning Outcomes (LO)	9	0	180
	Access (A)	8	0	80
	Infrastructure & Facilities (IF)	11	2	150
	Equity (E)	16	18	230
2. Governance Management (GM)	Governance Process (GP)	26	6	360
Total	5	70	26	1000

Findings of the Report (with a comparison to previous editions)

- The findings of the report indicate the levels attained by States/UTs in the PGI from 2017-18 to 2020-21.
- None of the states reached the highest level (Level 1) during this period.
- In 2017-18, the top-most score achieved by states/UTs was Level IV, which improved to Level II (score range 901-950) in 2020-21, demonstrating consistent performance improvement over the four-year period.
- No state reached the top two levels in 2017-18 and 2018-19. However, in 2020-21, seven states, namely Kerala, Punjab, Chandigarh, Maharashtra, Gujarat, Rajasthan, and Andhra Pradesh, reached Level II.
- In 2020-21, no state performed below Level VII, whereas in 2017-18, 12 states/UTs performed below Level VII, indicating significant progress made by states/UTs over the four-year period.
- Table 4.2 presents the levels attained by states/UTs in 2020-21. Seven states/UTs achieved Level II, 12 states/UTs reached Level III, six states/UTs joined Level IV, six states reached Level V, four states reached Level VI, and one state, Arunachal Pradesh, remained at Level VII.
- A total of 27 states/UTs improved their total PGI scores in 2020-21 compared to the previous year (2019-20).

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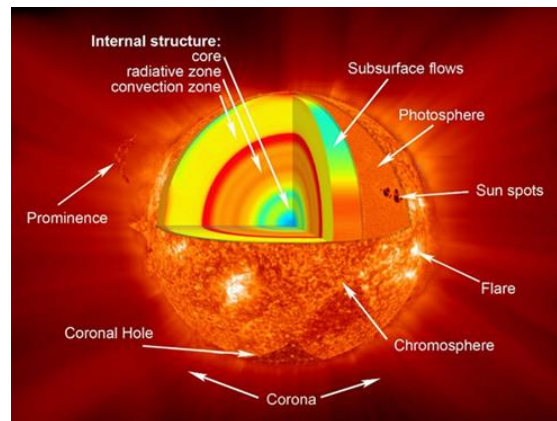
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Solar Shooting Stars

Context: Astronomers have recently made a remarkable finding involving streaks resembling meteors descending onto the Sun's surface.

Key features

- Massive clumps of plasma are falling onto the Sun's surface at astonishing speeds, resembling solar shooting stars.
- These "shooting stars" contribute significantly to heating up the Sun's outermost atmosphere, known as the corona, and create a spectacle resembling a rain of fireballs.
- The European Space Agency's Solar Orbiter spacecraft was used by researchers to observe these solar shooting stars.
- It marks the first time that such impacts have been detected.
- These observations were made from a relatively close proximity to the Sun, at a distance of merely 30 million miles.



Coronal Rains

- Coronal rain is the well-known phenomenon in which hot plasma high in the Sun's corona undergoes rapid cooling (from $\sim 10^6$ to $< 10^4$ K), condenses, and falls to the surface.
- Coronal rain appears frequently in active region coronal loops and is very common in post-flare loops.
- Formation:
 - ✓ Coronal rains are formed when temperature drops occur in localized areas of the Sun's corona.
 - ✓ The superheated solar plasma condenses into dense lumps instead of remaining as a diffuse gas.
 - ✓ These lumps, known as coronal rain, fall towards the Sun's photosphere.
 - ✓ Coronal rain appears as a fiery rainfall, resembling fireballs.
 - ✓ The descent of coronal rain occurs at speeds up to 220,000 miles per hour.

Gravity Holes

Context: According to a recent study, the massive and enigmatic "Gravity Hole" located in the Indian Ocean could potentially be the remnants of a long-lost ancient sea that vanished millions of years in the past.

What is it?

- The gravity hole is a region of the ocean where the effects of gravity are less than usual.
- It occurs at the bottom of the ocean where there are gravitational anomalies.
- Cause: The presence of these anomalies is attributed to fluctuations in the gravitational pull of the Earth caused by variances in the density of materials constituting the Earth's crust.

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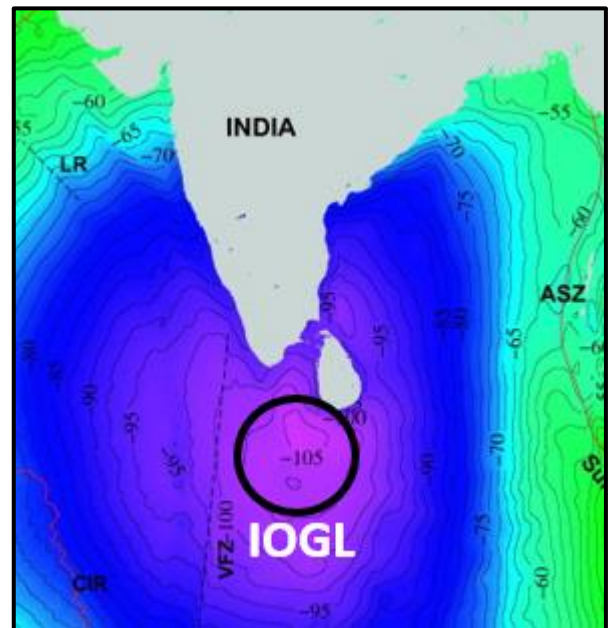


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- A "Gravity Hole" denotes a notable gravitational anomaly where the strength of gravity differs significantly from the surrounding areas.
- Gravity holes exhibit a considerable decrease in gravitational pull compared to the expected value based on the Earth's normal gravitational field.
- Several factors, such as geological structures, mass distribution variations, or other relevant elements, can contribute to the formation of gravity holes.
- The phenomenon of gravity holes is estimated to have originated roughly 20 million years ago.
- It is anticipated that the gravity hole will persist for millions of years into the future.

Indian Ocean Geoid Low (IOGL)

- The Indian Ocean Geoid Low (IOGL) is a profound gravitational anomaly in the Indian Ocean.
- Discovered in 1948 by Felix Andries Vening Meinesz, it spans over three million square kilometres, around 1,200 kilometres southwest of India's southern tip.
- Estimated to have formed 20 million years ago, the IOGL consists of slabs from the Tethys Ocean, a lost sea that submerged into the Earth.
- The Tethys Ocean, which separated Gondwana and Laurasia, influenced the African Large Low Shear Velocity province and generated plumes beneath the Indian Ocean.
- The IOGL causes a significant dip in the ocean, with the sea level over the "hole" being around 106 meters below the global average.
- Extending more than 600 miles beneath the Earth's crust, the IOGL offers valuable insights into Earth's oceanic and tectonic history.



NEWS IN BETWEEN THE LINES

Cluster Munition



Recently, the US has made the decision to send cluster munitions to Ukraine to support their military efforts against Russian forces.

About Cluster Munitions:

Cluster Munitions are bombs that open in the air and disperse smaller bomblets across a wide area, targeting tanks, equipment, and troops simultaneously.

Function: Cluster munitions hit multiple targets at once and are launched from artillery weapons like howitzers. US plans to send a cluster munition to Ukraine based on a widely-used 155 mm shell.

Types: Cluster munitions are delivered by aircraft, artillery or missiles and come in various sizes and designs including air-dropped bombs, artillery projectiles and rocket-launched systems.

Convention: Over 120 countries have joined a convention that prohibits the use, production, transfer and stockpiling of cluster munitions. However, notable countries like the US, Russia and Ukraine have not signed this convention.

International Convention: The 2008 Convention on Cluster Munitions bans the use, production, stockpiling, and transfer of cluster munitions, while mandating contaminated area clearance and victim assistance.

Signatories: 110 countries, including Germany, France and the United Kingdom, joined the Convention on Cluster Munitions, while notable non-signatories are the US, Russia, China and India.

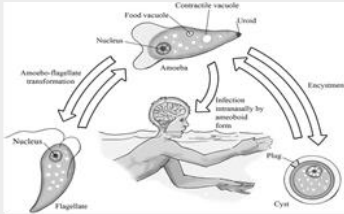
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Naegleria Fowleri



Recently, a 15-year-old boy in Kerala's Alappuzha district succumbed to a rare infection caused by *Naegleria fowleri*.

What is *Naegleria Fowleri*?

Naegleria fowleri is a single-cell organism found in warm freshwater environments like lakes, rivers and springs. It is also known as the "brain-eating amoeba".

Symptoms: Symptoms of *Naegleria fowleri* infection include severe headache, fever, nausea, vomiting, stiff neck, confusion, seizures and hallucinations.

Prevention: Preventive measures include avoiding warm freshwater bodies with inadequate chlorination, using nose clips and using sterile water for nasal cleansing rituals.

Treatment: Treatment involves a combination of drugs, such as amphotericin B, azithromycin, fluconazole, rifampin, miltefosine and dexamethasone.

Garo Tribe



Recently, the Garo tribal community living in Uttar and West Bengal, has been grappling with various challenges and limited access to basic amenities.

Location and Population: The Garo tribal community resides in various regions of Northeast India (Meghalaya, Assam, Tripura), Uttar Pradesh and West Bengal. They are also found in neighboring countries like Bangladesh and Bhutan.

Language and Culture: The Garo people have their distinct language called "Garo" which belongs to the Tibeto-Burman language family. They have a rich cultural heritage with vibrant traditional practices, music, dance, and festivals.

Livelihood and Agriculture: Traditionally, the Garo people have been dependent on agriculture for their livelihood. They practice both shifting cultivation (jhum cultivation) and terrace farming methods. Cultivation of crops like rice, maize, millet and vegetables is common.

Religious Beliefs: The Garo tribe follows a blend of indigenous animistic beliefs, known as "Songsarek," along with influences from Christianity introduced by missionaries. They have a strong belief in spirits and worship ancestral deities.

Place in News

Zaporizhzhya Nuclear Power Plant (Ukraine)

Recently, the Zaporizhzhya Nuclear Power Plant in Ukraine, located in a war zone, is encountering multiple safety and operational risks.

Location: The Zaporizhzhya Nuclear Power Plant is situated in Ukraine, a country located in Eastern Europe. It is the second-largest country in Europe after Russia.

Regional Borders: Ukraine shares borders with neighboring countries such as Belarus to the north, Poland, Slovakia and Hungary to the west, and Romania and Moldova to the southwest. It also has coastlines along the Black Sea and the Sea of Azov.

War Zone: The power plant is located in a region that has been affected by the ongoing conflict in Ukraine. The proximity to the war zone poses additional challenges and risks to the safety and operation of the facility.



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